OLYMPIC VIEW RESOURCE AREA

YEAR 4
ANNUAL MONITORING REPORT
2006

City of Tacoma
September 1, 2006

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This document presents the Year 4 Annual Monitoring Report for the Olympic View Resource Area (OVRA) Removal Action located in Tacoma, Washington (Figure 1). The City conducted the Year 4 visual monitoring activities in the spring and summer of 2006. There were no chemical analyses or elevation surveys required.

The OVRA is located within the boundaries of the Commencement Bay Nearshore/Tideflats Superfund Site and includes approximately 12.9 acres of intertidal and subtidal area. The Removal Action involved excavation, backfilling, and capping of approximately 2.3 acres of contaminated marine sediments within the OVRA site. Chemical constituents of concern included dioxins (polychlorinated dibenzodioxins and dibenzofurans), metals (arsenic, copper, mercury, and zinc), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs).

To evaluate alternatives for the Removal Action, the City prepared an Engineering Evaluation/Cost Analysis (EE/CA) in April 2001. The EE/CA summarized results of previous environmental investigations at the OVRA site. Following a public comment period, the U.S. Environmental Protection Agency (EPA) published an Action Memorandum in July 2001, which documented the selected alternative for the OVRA Non-Time-Critical Removal Action. Final Design Documents describing site construction activities for the Removal Action were completed in January 2002. The City completed sediment excavation and capping for the OVRA Removal Action in October 2002, and submitted a Removal Action Completion Report (RACR) to EPA in March 2003. All design, construction, and reporting tasks for the OVRA Removal Action were completed in accordance with requirements of an Administrative Order on Consent (AOC – Docket Number CERCLA 10-2001-0069 dated July 2001) between the City and EPA. The City submitted the final Long-Term Monitoring and Reporting Plan (LMRP) to EPA in August 2003.

The Year 1 Annual Report was submitted to EPA in final form on April 20, 2004, and approved by EPA on April 21, 2004. The Year 2 Annual Report was submitted to EPA in final form on November 30, 2004, and approved by EPA on December 14, 2004. The Year 3 Annual Report was submitted to EPA in final form on February 23, 2006, and approved by EPA on March 6, 2006.

2.0 PROJECT OBJECTIVES

The removal action objective for the OVRA, as described in the 2001 AOC and EPA's 2001 Action Memorandum, is to:

- Significantly reduce the potential risk to human health and/or marine ecological receptors resulting from potential exposure to contaminants present in sediments by removing and disposing of the contaminated sediment at an acceptable disposal site, or capping contaminated sediments in the project area.

The goals of the long-term monitoring program for the OVRA are to ensure that the selected cleanup action continues to be protective of human health and the environment. The specific objectives of the long-term monitoring program are to ensure that:

- The sediment cap continues to isolate toxic concentrations of previously identified chemicals of concern (COCs) in underlying sediments from marine biota and other biological receptors; and
- The sediment cap is not recontaminated with COCs from underlying sediments.

The integrity of the capped area is fundamental to achieving these objectives. Cap integrity depends upon maintaining the designed cap thickness to avoid potential contaminant releases, and to attain the performance standards. To ensure cap integrity, monitoring activities included the following:

- **Physical Integrity Monitoring.** Physical integrity monitoring was used to ensure that erosion is not occurring to an extent that would compromise the ability of the cap to physically isolate contaminated sediments from environmental receptors.
- **Surface Sediment Quality Monitoring.** In Year 4, the LMRP did not require that monitoring be conducted to evaluate contaminant movement through the cap via diffusion or other transport mechanisms.

3.0 MONITORING ACTIVITIES

3.1 Physical Integrity Monitoring

Physical integrity monitoring for Year 4 consisted of visual inspections.

Environmental professionals from the City of Tacoma Environmental Services / Science and Engineering Division conducted visual inspections in April 2006 and again in August 2006.

4.0 MONITORING RESULTS

4.1 Physical Integrity Monitoring Results

Visual inspections were conducted during April and August 2006. Photos and notes from the inspections are presented in Appendix A. Areas with erosion protection material were probed to confirm the presence of this larger rock. The erosion protection material appears to have remained stable and is covered in areas with a sandy gravel – likely the habitat mix from the construction activities. The erosion protection material is estimated to be several inches thick, with a minimum of 3 to 4 inches. It appears from the visual inspections and the elevation surveys that the erosion protection material coverage is similar to the post construction condition. There are no apparent signs of significant erosion. Additionally, close up photos of the sediments were taken as requested in EPA comments on the Year 1 Annual Report and included in Appendix A.

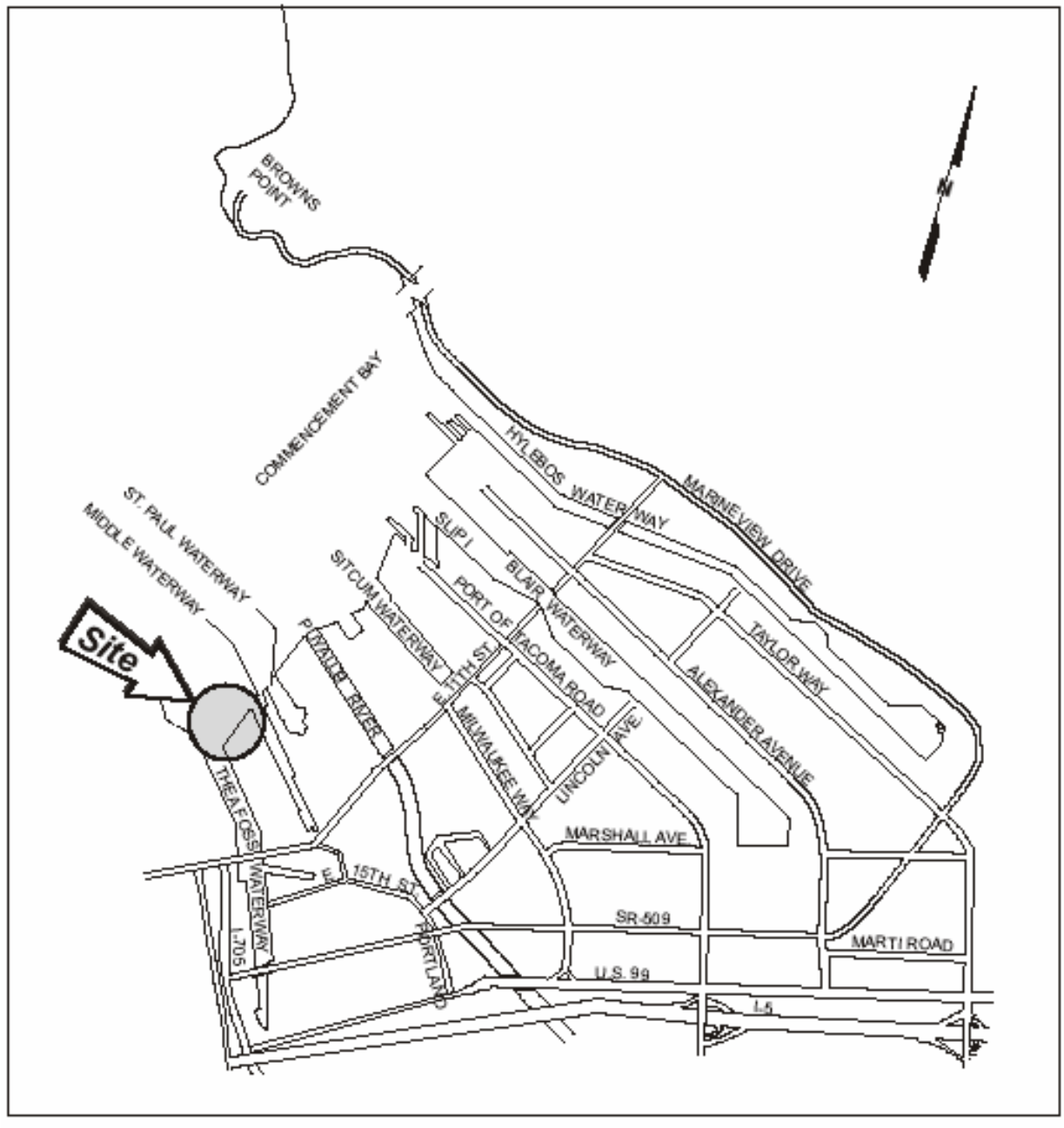
There have been no exceedances of the performance standards for physical integrity monitoring to date. Therefore, the removal action has been successful, to date, in the physical isolation of contaminated sediments from environmental receptors.

5.0 CONTINGENCY PLANNING AND RESPONSE

Year 4 monitoring results have confirmed the continuing success of the Removal Action at the OVRA. Based on Year 4 monitoring results, no contingency actions are required.

Figure 1

Vicinity Map



APPENDIX A

VISUAL INSPECTIONS: FIELD NOTES AND PHOTOS

Notes on Photo Point Monitoring

Photos were taken from locations noted in attached Figure 1 from the Maintenance, Monitoring and Adaptive Management Plan (MAMP). Title indicates in which direction the photo is looking.

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 1A

Date: 08/18/2006 Photo Point: 1A

Date: 04/28/2006 Photo Point: 1B

Date: 08/18/2006 Photo Point: 1B

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 2A

Date: 08/18/2006 Photo Point: 2A

Date: 04/28/2006 Photo Point: 2B

Date: 08/18/2006 Photo Point: 2B

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 2C

Date: 08/18/2006 Photo Point: 2C

Date: 04/28/2006 Photo Point: 3A

Date: 08/18/2006 Photo Point: 3A

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 3B

Date: 08/18/2006 Photo Point: 3B

Date: 04/28/2006 Photo Point: 4A

Date: 08/18/2006 Photo Point: 4A

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 4B

Date: 08/18/2006 Photo Point: 4B

Date: 04/28/2006 Photo Point: 4C

Date: 08/18/2006 Photo Point: 4C

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 5A

Date: 08/18/2006 Photo Point: 5A

Date: 04/28/2006 Photo Point: 5B

Date: 08/18/2006 Photo Point: 5B

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 5C

Date: 08/18/2006 Photo Point: 5C

Date: 04/28/2006 Photo Point: 5D

Date: 08/18/2006 Photo Point: 5D

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 6A

Date: 08/18/2006 Photo Point: 6A

Date: 04/28/2006 Photo Point: 6B

Date: 08/18/2006 Photo Point: 6B

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 7A

Date: 08/18/2006 Photo Point: 7A

Date: 04/28/2006 Photo Point: 7B

Date: 08/18/2006 Photo Point: 7B

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 7C

Date: 08/18/2006 Photo Point: 7C

Date: 04/28/2006 Photo Point: 8A

Date: 08/18/2006 Photo Point: 8A

Appendix A: Year 4 Olympic View Monitoring Photos

Date: 04/28/2006 Photo Point: 8B

Date: 08/18/2006 Photo Point: 8B

Date: 04/28/2006 Photo Point: 8C

Date: 08/18/2006 Photo Point: 8C

Appendix A: Year 4 Olympic View Monitoring Photos

Close up of Erosion Protection Material A

Close up of Erosion Protection Material B